

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-15 (Canceled).

Claim 16 (New): An electrical supply device configured to deliver energy to a structure that includes at least first and second electrodes and a space containing a gas to be excited, the device comprising:

a voltage generator;

an inductor connected to the voltage generator and connected to the structure to supply the first and second electrodes with a periodic voltage of a frequency; and resonance means for fixing the frequency at substantially the resonant frequency of the system of the structure and the inductor.

Claim 17 (New): The supply device as claimed in claim 16, wherein the inductor is connected to the first electrode, and the resonance means comprises:

first and second switches, the first switch placed between the voltage generator and the inductor, the second switch connected to the first switch and to the second electrode; and means for controlling the switches, the means for controlling being coupled to means for measuring an image of the current passing through the structure, to fix the frequency.

Claim 18 (New): The supply device as claimed in claim 16, wherein the voltage is at least partly sinusoidal.

Claim 19 (New): The supply device as claimed in claim 16, further comprising means for truncating the voltage.

Claim 20 (New): The supply device as claimed in claim 16, wherein the resonance means is configured to operate for a plurality of resonant frequencies.

Claim 21 (New): The supply device as claimed in claim 16, further comprising:
a transformer provided with a primary winding and with a secondary winding forming the inductor, the primary winding connected to the voltage generator and the secondary winding connected to the first and second electrodes, and
wherein the resonance means comprises a switch placed in a path from the voltage generator to the primary winding of the transformer, and a control system connected to the switch to open and close the switch over a period, wherein closing of the switch, which is closed for a duration, is triggered by choice at one of the following instants:
at a zero crossing of the current flowing through the structure;
when the voltage crosses a threshold voltage;
at a threshold light level; or
when the current flowing through the structure crosses a threshold current.

Claim 22 (New): The supply device as claimed in claim 21, further comprising means for measuring the current that delivers, to the control system, an image of the current flowing through the structure, the closing of the switch within the period being triggered at the current zero crossing.

Claim 23 (New): The supply device as claimed in claim 21, further comprising means for measuring the voltage coupled to the control system, the closing of the switch within the period being triggered when the voltage crosses the threshold voltage.

Claim 24 (New): The supply device as claimed in claim 21, wherein the duration of the time during which the switch is closed can be adjusted according to energy to be delivered to the structure.

Claim 25 (New): The supply device as claimed in claim 16, wherein the frequency is between 10 and 300 kHz.

Claim 26 (New): The use of the supply device as claimed in claim 16 for supplying at least first and second electrodes of a structure forming a flat lamp.

Claim 27 (New): An assembly comprising:
a structure that includes at least first and second electrodes and a space containing a gas; and
the supply device as claimed in claim 16.

Claim 28 (New): The assembly as claimed in claim 27, wherein the structure includes two dielectrics associated respectively with the first and second electrodes and spaced apart so as to create the space.

Claim 29 (New): The assembly as claimed in claim 27, wherein the structure forms a flat lamp for a backlighting system or a flat lamp for architectural, decorative, and/or indicating illumination.

Claim 30 (New): The assembly as claimed in claim 27, wherein the structure forms part of a deposition system for a plasma CVD process.